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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,823	10/04/2005	Soo-Guy Rho	YOM-0240	9197
23413 7590 01/07/2009 CANTOR COLBURN, LLP 20 Church Street 22nd Floor Hartford, CT 06103				
EXAMINER ALMEIDA, CORY A				
ART UNIT		PAPER NUMBER		
2629				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

Office Action Summary

Application No.

10/525,823

Applicant(s)

RHO ET AL.

Examiner

CORY A. ALMEIDA

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-8 is/are pending in the application.
4a) Of the above claim(s) 2 and 3 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1 and 4-8 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 04 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claims 2 and 3 are cancelled.

Claims 1 and 4-8 are pending.

Specification

1. The substitute specification filed 10/24/2008 has not been entered because it does not conform to 37 CFR 1.125(b) and (c) because: the substitute specification contains new matter. Nowhere in the specification as previously presented does it state "the pixel weight decreases as the distance from the center pixel increases."

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 4 and 8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims recite "the pixel weight decreases as the distance from the center pixel increases." Nowhere in the specification as previously presented does it state this limitation.

Claims will be addressed as understood based on specification.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui, US-4822142 in view of Rushmeier, US-6686921.

7. In regards to claim 1, Yasui discloses an array of a plurality of alternately arranged first and second rows of pixels (Fig. 9), each first row including red, blue and green pixels or red, green and blue pixel arranged in sequence (Fig. 9) and each second row including red, blue and green pixels or red, green and blue pixel arranged in sequence and having an arrangement shifted by one pixel from the first row (Fig. 9), each pixel including a pixel electrode (Fig. 9, 1) and a thin film transistor (Fig. 9, 4), a plurality of gate lines extending in a row direction for transmitting a gate signal to the pixels (Fig. 9, 2), and a plurality of data lines extending in a column direction for transmitting data signals to the pixels (Fig. 9, 3).

Yasui does not disclose expressly a pixel group for rendering includes a center pixel and a plurality of peripheral pixels having weights depending on a distance from the center pixel

Rushmeier discloses weights assigned to each pixel are increased depending on the distance from the center toward the edge (Col. 11, 48-55).

At the time of the invention it would have been obvious that the method of Rushmeier could have been applied to the pixel structure of Yasui.

The motivation for doing so would have been to create seamless, artifact free color characteristics as Rushmeier discloses (Abstract).

Therefore, it would have been obvious to combine Rushmeier with Yasui to obtain the invention as specified in claim 1.

8. In regards to claim 6, Yasui discloses a passivation layer interposed between the pixel electrodes and the gate lines and the data lines, made of low dielectric material, and having a plurality of contact holes for connecting the thin film transistors and the pixel electrodes (Col. 1, 13-21).

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui, US-4822142 in view of Deering, US-6686921.

10. In regards to claim 4, Yasui discloses an array of a plurality of alternately arranged first and second rows of pixels (Fig. 9), each first row including red, blue and green pixels or red, green and blue pixel arranged in sequence (Fig. 9) and each second row including red, blue and green pixels or red, green and blue pixel arranged in sequence and having an arrangement shifted by one pixel from the first row (Fig. 9),

each pixel including a pixel electrode (Fig. 9, 1) and a thin film transistor (Fig. 9, 4), a plurality of gate lines extending in a row direction for transmitting a gate signal to the pixels (Fig. 9, 2), and a plurality of data lines extending in a column direction for transmitting data signals to the pixels (Fig. 9, 3).

Yasui does not disclose expressly a pixel group for rendering includes a center pixel and a plurality of peripheral pixels having weights depending on a distance from the center pixel, or that the weight decreases as the distance from the center pixel increases.

Deering discloses a pixel group for rendering includes a center pixel and a plurality of peripheral pixels having weights depending on a distance from the center pixel and that the weight decreases as the distance from the center pixel increases (Fig. 16, Filter Values are weights).

At the time of the invention it would have been obvious that the method of Deering could have been applied to the pixel structure of Yasui.

The motivation for doing so would have been to create more accurate color (Par. 0004).

Therefore, it would have been obvious to combine Rushmeier with Yasui to obtain the invention as specified in claim 4.

11. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui, US-4822142 and Rushmeier, US-6686921 in view of Prince, US- 5473338.

In regards to claim 5, Yasui does not disclose expressly each data line includes a connection portion for receiving data signals from an external device.

Prince discloses receiving video signal data from an external source (Col. 9, 8-12).

At the time of the invention it would have been obvious that one could use external video data as Prince discloses in conjunction with Yasui.

The motivation for doing so would have been to allow the display device to utilize external sources such as cable boxes, video game systems, VCRs, etc...

Therefore, it would have been obvious to combine Prince with Yasui and Rushmeier to obtain the invention as specified in claim 5.

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui, US-4822142 in view of Rushmeier, US-6686921.

Yasui discloses a method of driving a liquid crystal display including a plurality of pixels (Fig. 9, 1) including a plurality of switching elements (Fig. 9, 4), a plurality of signal lines connected to the switching elements (Fig. 9, 2 and 3), the method comprising providing data voltages to the data lines (Col. 5, 33-47), and turning on the switching elements to transmit the data voltages to the pixel electrodes (Col. 5, 33-47).

Yasui does not disclose expressly weighting the pixels for rendering based on a pixel group including a center pixel and a plurality of peripheral pixels such that weight for the pixels depends on a distance from the center pixel, the data voltages having values depending on the weight.

Rushmeier discloses weights assigned to each pixel, which go with the image data levels, are increased depending on the distance from the center toward the edge (Col. 11, 48-55).

At the time of the invention it would have been obvious that the method of Rushmeier could have been applied to the pixel structure of Yasui.

The motivation for doing so would have been to create seamless, artifact free color characteristics as Rushmeier discloses (Abstract).

Therefore, it would have been obvious to combine Rushmeier with Yasui to obtain the invention as specified in claim 7.

13. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasui, US-4822142 in view of Deering, US-6686921.

Yasui discloses a method of driving a liquid crystal display including a plurality of pixels (Fig. 9, 1) including a plurality of switching elements (Fig. 9, 4), a plurality of signal lines connected to the switching elements (Fig. 9, 2 and 3), the method comprising providing data voltages to the data lines (Col. 5, 33-47), and turning on the switching elements to transmit the data voltages to the pixel electrodes (Col. 5, 33-47).

Yasui does not disclose expressly weighting the pixels for rendering based on a pixel group including a center pixel and a plurality of peripheral pixels such that weight for the pixels depends on a distance from the center pixel, the data voltages having values depending on the weight, or that the weight decreases as the distance from the center pixel increases.

Deering discloses a pixel group for rendering includes a center pixel and a plurality of peripheral pixels having weights depending on a distance from the center pixel and that the weight decreases as the distance from the center pixel increases (Fig. 16, Filter Values are weights).

At the time of the invention it would have been obvious that the method of Deering could have been applied to the pixel structure of Yasui.

The motivation for doing so would have been to create more accurate color and prevent data loss (Par. 0004).

Therefore, it would have been obvious to combine Rushmeier with Yasui to obtain the invention as specified in claim 8.

Response to Arguments

14. Applicant's arguments filed 10/24/2008 have been fully considered but they are not persuasive. In regards to claim 1 as amended and claim 7, Applicant argues that Rushmeier fails to disclose a pixel group for rendering has a center pixel and has weights depending on the distance from the center pixel. Rushmeier, however discloses this limitation as it discloses weighting to each pixel increases with distance to the black edge. As the center pixel can be taken as the center pixel within that image and that the weight applied would increase as the distance got closer to the edge of the screen. Meaning that the pixel group is the entire image and the center pixel is the center pixel of the image and these weights would increase as the distance from the center pixel increased.

15. Claims 1 and 7 are also rejected with new prior art for claims 4 and 8, which more closely links the amended claim language in claims 1 and 4 to claims 1 and 7.

16. In regards to all other claims applicant merely states that they should be allowable based on claims 1 and 7.

17. Claims 1 and 7 are rejected and argued as the stood in the previous office action and rejected with new claim language in claims 4 and 8.
18. Claims 1, and 48 stand rejected as presented above.

Conclusion

19. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CORY A. ALMEIDA whose telephone number is (571) 270-3143. The examiner can normally be reached on Monday through Friday 8AM to 4PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bipin Shalwala/
Supervisory Patent Examiner, Art Unit 2629

CA

12/31/2008